Ministry of Sustainable Resource Management

Mineral, Oil and Gas Sector Strategy for Crown Land Access

2003/04, 2004/05

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1.0 Overview

The province of British Columbia is committed to work aggressively to revitalize the province's mineral exploration and mining industries, and to enhance oil and gas exploration and development. Investment in subsurface resource exploration and development is fundamental to a strong, competitive and vibrant provincial economy. Subsurface resources include metallic and industrial minerals, aggregates, oil and gas (including coal bed methane) and geothermal resources.

This Minerals, Oil and Gas strategy complements the Ministry of Sustainable Resource Management (MSRM) and Division service plans, the Strategic Direction for Economic Development, the First Nations Strategy and the Agriculture Sector Strategy.

Four broad goals support the MSRM vision of a vibrant economy supporting the social and environmental values of British Columbians.

1.1 Goal 1 – Sustainable Development of Land and Resources

Objectives for the Resource Management Division that support Goal 1:

- Land and Resource use decisions that enable sustainable economic development and promote environmental stewardship.
- Increased economic benefits resulting from First Nations participation in land and resource based activities
- Sustainable development based on a framework (policies, legislation, standards, guidelines, tools) that supports balanced resource management decisions

RMD is taking the lead on completing focused land use planning that can increase economic opportunities and certainty of access for resources. RMD is also developing policy initiatives and tools to support science-based decision-making to facilitate and encourage sustainable development of the province's subsurface resources to strengthen our overall economy.

The following activities will be undertaken by RMD to support subsurface economic development:

- Complete pre-tenure planning in the Muskwa-Kechika Management Area to enable tenure issuance and responsible oil and gas exploration and development;
- Develop policy initiatives to provide increased certainty of access for the subsurface sectors, and respond to specific access impediments as they arise;
- Ensure subsurface resource values and access needs are adequately considered in land use planning through balanced, science-based resource management decision-making;
- Ensure social and economic values of subsurface resource development opportunities are adequately considered by working to increase MSRM regional capacity/capability to address the needs of subsurface related planning and economic development issues; and
- Implement strategies to facilitate and support application of sustainability principles in responsible subsurface resource developments:

1.2 Goal 2 – Effective Delivery of Integrated, Science-based Land, Resource and Geographic Information

The RRID/BISD, through the *Land Information BC* initiative, are taking the lead on Goal 2, *effective delivery of integrated, science-based land, resource and geographic information,* to support government and sector land and resource information needs.

The Objectives directing the RRID/BISD strategies and activities include:

- Integrated land and resource information
- Effective delivery of client services
- Transformed business, including e-government, deregulation and alternative service delivery

Land Information BC is the flagship initiative to provide effective delivery of integrated, science-based land, resource and geographic information. Land Information BC will assist government to be a results-oriented provider of services and information to government, resource sectors, businesses, First Nations, stakeholders and the public.

Activities undertaken by RRID/BISD, under the Land Information BC initiative to support the subsurface (mineral and oil and gas) sectors' information needs will focus on four key strategies.

1. **Client Services**
    - Ensuring that government and client users have the right land information and the tools to make appropriate and timely choices
2. **Integrated Provincial Atlas**
    - Understanding land/resource, economic and social information in terms of where things are
3. **Integrated Provincial Registries and Inventories**
    - Ownership, rights, natural resources, ecosystems, current/planned land use
    - Includes the Integrated Resource Information Strategy, the Integrated Registry Project, Integrated Land and Resource warehouse project and the Integrated Cadastral Fabric Initiative.
4. **Business Transformation**
    - Public-private partnerships, electronic service delivery, expansion of available information content

Each component of Land Information BC supports the minerals, oil and gas sectors. The client access strategy will support timely, efficient access by these sectors to accurate registries data, resource information and cadastral information. Together, all these initiatives will support the subsurface sectors' information needs in planning for tenure acquisition, planning of on-the ground activities, planning for mitigation of potential impacts on other sectors or values and facilitating appropriate stakeholder consultation.

1.3 Goal 3 – Sound Governance of Land and Resource Management

Goal 3 objectives include:

- An effective policy regime for land and resource management
- Crown land and resource decisions are informed by First Nations' interests
- An integrated sustainable resource management framework that informs Cabinet and Treasury Board policy decisions
- Effective and efficient delivery of the Ministry's mission

Initiatives include:

- Support development of policy regimes by to ensuring the subsurface sector-specific needs are considered.
- Ensure subsurface resource sector-specific values, access and business needs are incorporated in management framework development.

1.4 Goal 4 – Organizational Excellence

Organizational excellence objectives include:

- demonstrated visionary leadership and continuous improvement,
- performance focused staff, and
- accountability and transparency to the public.

These objectives will demonstrate benefits to the subsurface sector through improved client services, reduced cost of government, and clear and easy access to government services and information, and an improved business climate in BC.

2.0 The Minerals and Oil and Gas Sectors

2.1 Economic Activity Generated by the Minerals and Oil and Gas Sectors

The minerals and oil and gas sectors generated over $10.9 billion in sales in 2001. These subsurface sectors provided $1.9 billion in direct revenues to the Province of BC, representing 8% of total BC government revenues in 2001. Economic activity associated with the subsurface sectors supported more than 25,000 direct jobs in the province. Other parts of our economy are highly dependent on healthy subsurface sectors; for example, mineral products account for approximately 65% of railway revenues and 55% of port volume in BC. Subsurface development activities are major economic drivers in many rural BC communities, such as Kamloops, Fernie, Smithers, Fort St John or Fort Nelson.

Minerals:

Metallic mineral exploration and mining sector:

- The metal mining sector had $1.4 billion in sales in 2001, with metal refining and smelting, and downstream metal processing contributing an additional $2.3 billion, for a total value of the sector of $3.7 billion
- Direct employment in metal mining was 3,012 in 9 operating metal mines1, with an additional 8,210 employees in the secondary mineral industries.
- The sector also spent approximately $29 million in exploration in 2001. This is an increase over recent years, but remains substantially below the level of activity required to sustain the discovery of new mineral resources that will become our future mines. All currently producing metal mines are expected to close by 2010, unless additional reserves are identified.

Coal mining sector:

- The coal mining sector had sales of $1.1 billion,
- Direct employment is 2,869 people at 7 operating mines[2].

Coal reserves in British Columbia are large and could support decades of production at current rates. Continued operation of these mines, located

[1] Operating Metal Mines 2001: Endako, Eskay Creek, Golden Bear (closed Oct 2001), Highland Valley, Huckleberry, Kemess, Mount Polly(on care and maintenance Sept 2001), Myra Falls, and Sullivan(closed Dec 2001)

[2] Coal Mines 2001: Bullmoose, Elkview, Fording Coal Mountain, Fording Greenhills, Fording River, Line Creek

primarily in the Kootenays, is largely dependant on mine economics (coal prices, transportation costs and demand for the various types of coal). Development of new coal mines in the northeast is underway and evaluation of the feasibility of coal-fired electricity generation is being evaluated.

Industrial Minerals Sector:

- Industrial minerals include such products as limestone, barite, gypsum, gemstones, pumice, soapstone, sulphur and zeolites. The industrial mineral sector had gross revenues of $41 million in 2001.
- The industrial minerals sector employed 370 people in 45 operations

Aggregate Sector:

- The construction aggregate sector produces sand and gravel, stone, cement, lime and clay products. This sector had gross revenues of $ 475 million in 2001.
- Over 3,550 people are directly employed in the sector, in 680 operations.
- Low-cost, crown land-based sources of aggregate supply will increasingly be required to supply an increasingly urbanized southwestern B.C.

Oil and Gas:

Conventional Oil and Gas Exploration and Development Sector:

- The oil and gas industry invested about $5.1 billion in the province in 2001.
- The sales value of oil and gas production was estimated at $5.6 billion, from 3724 producing wells.
- In calendar year 2001, 850 new oil and gas wells were drilled.
- BC government direct revenues from the oil and gas sector totaled $1.7 billion in 2001.3
- BC contains many unexplored sedimentary basins (eg. Bowser, Nechako) with future potential to produce hydrocarbons, and some preliminary exploration is commencing.

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[3] (Revenue Total = (Crown Reserves Disposition Bonuses) + (Fees, Rentals, Etc) + (Crown Royalties))

Coal Bed Methane Sector:

- This is a new, developing sector in BC, with initial activities on Vancouver Island and in the Kootenays. Current employment is very low. A typical CBM project could be expected to employ an estimated 175 people during the project startup phase, and approximately 30 people during project operation.

2.3 Subsurface Resource Sector Reliance on Access to Crown Land

The mining and oil and gas resource sectors of BC rely on access to Crown land and Crown-owned mineral and oil and gas resources for exploration and development opportunities. Exploration and development of BC's subsurface resources can proceed, subject to applicable legislation, on all lands outside of Protected Areas and parks. Provincial Crown land and access policy aims to maximize the area available for exploration as the specific location and extent of mineral deposits or underground oil and gas pools is not known until they are discovered. At any one time, exploration efforts are focused only on small portions of BC.[4]

2.4 Subsurface Resource Sector Reliance on Crown Land and Resource Information

The mining and oil and gas resource sectors of BC rely extensively on timely and accurate information about BC's geography, resource distributions, infrastructure, biological/ecological values, land ownership and tenures, and other Crown land and resource users and stakeholders in order to make business decisions and conduct their activities.

[4] The area held under mineral claim was 2.97 million ha or 3 % of BC's land base in 2001. While the number of new mineral claims have exceeded forfeitures in recent years as the industry recovers, this level of tenure holdings remains at a historical low due to the recent trend of low commodity prices, global market conditions and the past poor business climate in BC for mining. The area occupied by mining operations is approximately 28,000 ha, or only 0.03% of the provincial land base. The area under oil and gas tenures in 2001 was 7.3 million ha or 7-8 % of BC.

3.0 The Role of MSRM in Encouraging Investment in BC's Minerals and Oil and Gas Sectors

3.1 MSRM's Role in Subsurface Economic Development

The reliance of the subsurface sectors on access to land and resources makes Crown land policies and land use decisions vitally important. The government of BC owns the majority of mineral and oil and gas resources in the province, and MSRM plays a key role in ensuring that the subsurface interests of the province are adequately represented and considered in land use planning and resource management decisions. MSRM exercises this role in collaboration with other ministries and agencies, notably the Ministry of Energy and Mines and the Oil and Gas Commission.

As the ministry responsible for managing and integrating BC's Crown land and resource information. MSRM has a key role in improving access to accurate information. Efficient, cost-effective access to accurate information is important in making BC an attractive investment choice.

3.2 Increasing Investment of the Subsurface Resource Sectors in BC

All of the resource sectors driving the provincial economy - oil and gas, mining, forestry, aquaculture, agriculture and tourism – require access to land and access to resources as an absolute ingredient to their success, growth and sustainability.

All other ingredients supporting economic development (capital, markets etc) are predicated on assured access to the resources. Industry and government regulatory and permitting agencies require timely access to land and resource information in order to conduct their business in BC.

3.3 Key Partners

Other ministries and agencies within government play a role in areas of skills, labour market, access to capital, access to markets, overall business climate, community development, infrastructure and other inputs that support economic activity.

Successful economic resource development requires that all of the factors work together. RMD both regionally and through the Economic Development Branch will work with the private sector and other partners to support investment in resource development opportunities. RRID/BISD will be working with public and private sector partners to ensure accurate, relevant, cost-effective efficient,

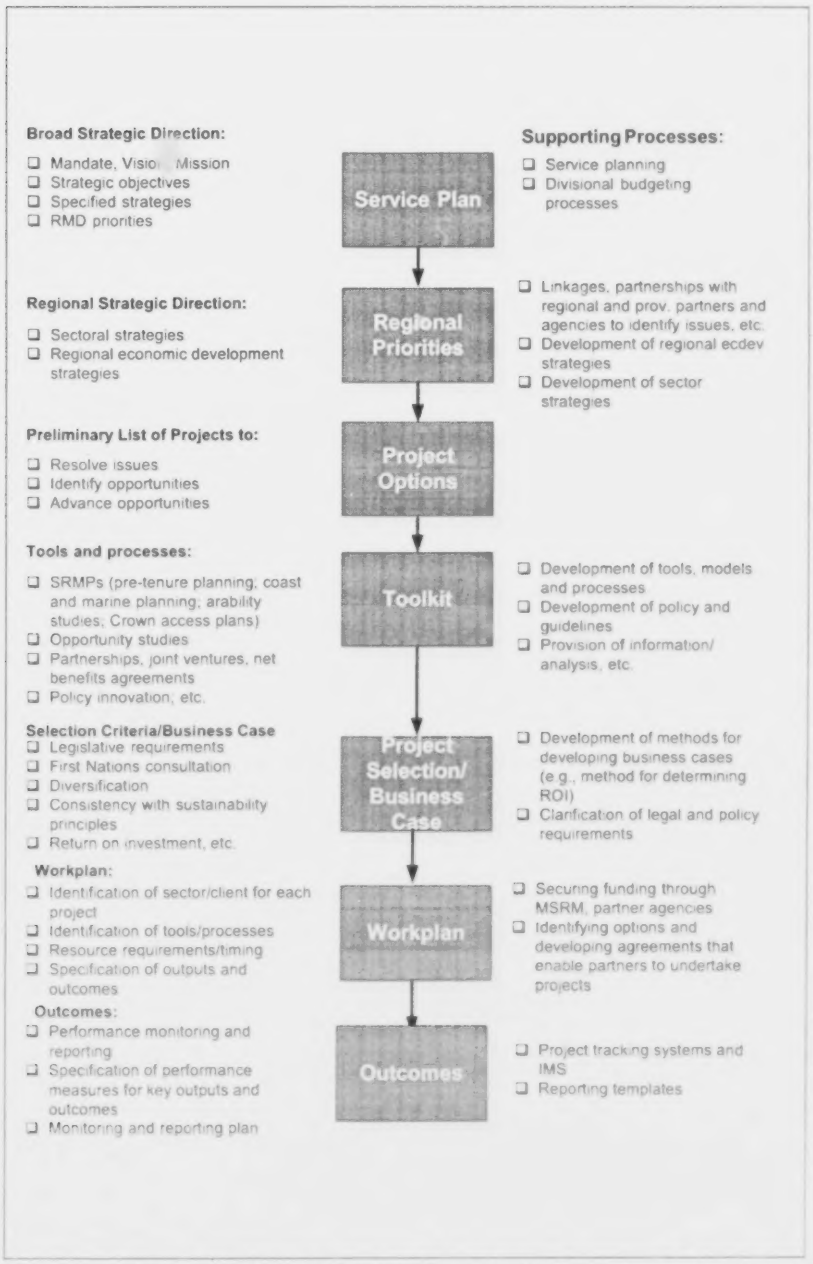
timely information is available to support government and corporate decision-making.

MSRM's key partners include:

- the Ministry of Energy and Mines;
- the Oil and Gas Commission;
- Land and Water BC;
- other government ministries and agencies;
- the subsurface resource industries;
- private companies;
- industry associations (the BC and Yukon Chamber of Mines, the Mining Association of BC, the Canadian Association of Petroleum Producers, and the Aggregate Producers Association of BC);
- federal, regional and local governments;
- First Nations; and
- Stakeholders.

4.0 Minerals and Oil and Gas Sector Action Plan

4.1 Establishing Workplan Priorities



Workplan priorities were established through a structured analysis that identifies key sectoral opportunities, quantifies the potential economic benefits associated with developing opportunities, and identifies and prioritizes issues that need to be addressed in order for investors, communities or First Nations to be able to act on the opportunity.

For RMD, this results-focused analysis is described in the Resource Management Investment Framework. The Division applies this framework to selection of sector and planning projects and activity planning.

The Land Information BC initiative's initial project priorities (through 2004/05) are also established through structured analysis of inputs.

5.0 Minerals, Oil and Gas Strategy - Workplan 2003/04 through 2004/05

- Enable increased investment in oil and gas exploration and development in the Muskwa -Kechika Management Area, with anticipated associated additional revenues to the Crown, by completing Pre-Tenure Plans that allow new petroleum and natural gas tenure sales and oil and gas exploration and development activity to proceed.
- Completion of the initial deployment of the Integrated Registry Project in NEBC investments in the Muskwa-Kechika and in NEBC will be enhanced by.
- Increase First Nations participation in minerals, oil and gas economic opportunities, by working with TNO, FN, OGC, local governments, industry, and others to identify or facilitate opportunities for development of subsurface projects, or opportunities to develop partnerships with the private sector project proponents, and to facilitate access to programs such as the Economic Measures Fund.
- Encourage increased investment in subsurface resource exploration and development by developing and implementing policy initiatives that enhance investor certainty and access to Crown land and resources.
- Maximize the land and resource base available for discovery of oil and gas pools and mineral deposits.
- Ensure consistent application of the two-zone land use system for mineral exploration and mining in planning and in all policy and legislative initiatives.
- Facilitate identification of resource development opportunities through planning.
- Support MEM in eliminating critical barriers or impediments to investment, particularly any relating to access to Crown land and resources or to infrastructure issues.
- Improve BC's competitiveness and business climate by enabling government agencies to provide faster response times (through timely access to accurate information) for resource tenure allocation, permitting and other services.

- Improve BC's ability to attract resource sector investment by providing timely access to accurate, integrated geographic, resource and registry information to support corporate investment decision-making.
- Improve corporate profitability by reducing corporate planning and operational delays through client-focussed information access services, and provision of accurate, integrated information.

Key Tasks: 2003/2004	Economic Outcomes:
Goal 1: Sustainable development of land and resources	
Complete Pre-tenure Planning in the Muskwa-Kechika Management Area to enable tenure issuance and responsible oil and gas exploration and development activity to proceed	-Tenure sales and increased revenue to the Crown -New exploration activity
Develop policy initiatives to provide increased certainty of access for the subsurface sectors, and respond to specific access impediments as they arise.	Increased investment
Implement the Two Zone Land Use system for mineral exploration and mining and identify a comparable system for oil and gas activities.	Increased investment in mineral exploration and development
Review options and implement mechanisms for resolving specific access or infrastructure issues, where access to high value resource lands or opportunities are being impeded or limited.	Increased investment in oil and gas or mineral exploration and development projects
Assist with coordination of infrastructure development or other projects that support subsurface economic development (e.g. Stewart-Omineca Resource Road)	Infrastructure built Local employment for communities and First Nations Increased investments, lower transportation costs and higher corporate profitability and revenues to the Crown
Participate in Crown Land access and policy initiatives focused on other sectors or led by other agencies, to ensure subsurface resource values and access needs are adequately considered (e.g. Working Forest).	Increased investment in BC
Ensure subsurface resource values and access needs are adequately considered in land use planning and balanced, science-based resource management decision-making.	Increased investment New opportunities identified
Contribute to completion of strategic planning in the Central Coast, North Coast, Morice, and the Queen Charlotte Islands	Increased investment New opportunities for FN participation in subsurface resource development
Incorporate subsurface resource information into Sustainable Resource Management Planning and other landscape-level planning; or initiate and complete SRM Planning where subsurface resource development is the prime economic driver (e.g. Southern Rockies Management Area and the Coal Enhanced Resource Management Zone issues).	Greater certainty for subsurface resource development and increased investment
Ensure social and economic values of subsurface resource development opportunities are adequately considered by providing ongoing headquarters support to regional offices and working to increase regional capacity/capability to address the needs of subsurface related planning and economic development issues.	Improved MSRM ability to support sector interests Increased investment
Identify or facilitate opportunities for First Nations communities to develop subsurface resource projects or to develop partnerships with the private sector project proponents; and facilitate access to programs such as the Economic Measures Fund .	Increased First Nations participation in minerals, oil and gas economic opportunities Sustainable economic development

Key Tasks: 2003/2004	Economic Outcomes:
Identify regional subsurface resource development opportunities for communities and First Nations, and communicate socio-economic information which has previously not been readily available. (e.g. with socio-economic Building Blocks)	Increased community and FN knowledge and uptake of, economic opportunities Enhanced information for decision-making
Goal 2: Effective delivery of integrated, science-based land, resource and geographic information	
Complete deployment of initial phase of Registries Integration Project in NE BC to support oil and gas sector investments in that region.	Increased exploration investment in Muskwa-Kechika Management Area, and rest of NE BC Lower costs for industry
Assist MEM with development of the Map Selection Implementation Project, specifically with development of business rules, and with design and implementation of client service portal and data management system.	Post-implementation, lower cost to mining sector and government; immediate recording of tenure ownership Improved business climate
Partner with MEM on data conversion in preparation for Map Selection Implementataion	Post-implementaion, access to accurate, timely information; lower business costs
Develop client-services interface to Land Information data and information	Lower costs to private sector and government Enhanced business climate
Goal 3: Sound Governance of land and resource management	
Ensure subsurface resource values and access needs are adequately considered in government's land use and resource management decision-making	Transparent, accountable decisions and supportive industry
Develop and refine socio-economic tools and methodologies for valuation of subsurface resources, particularly for hidden, as yet undiscovered deposits.	Improved business climate; Increased investment in BC
Implement strategies to facilitate and support application of sustainability principles in responsible subsurface resource developments:	Increased investment in responsible development Increased public and FN support for subsurface sector activities
Develop web-based materials promoting sustainable subsurface resource development, and showing application of sustainability principles to subsurface resource development	Greater public support of subsurface development; Improved business climate
Highlight sustainability principles for subsurface resource development in BC in meetings with the industry sector, partners, other agencies, and the public	Increased certainty; Increased investment
Showcase successful application of sustainability principles by the subsurface resource sectors in BC	Greater public support for subsurface development; New partnerships in sustainable development projects
Goal 4: Organzational excellence	
Improve client-services by developing a results-oriented performance focused staff, as well as accountability and transparency to the subsurface sector and the public	Improved business climate, Lower cost government Increased investment in BC

Key Tasks: 2004/2005	Economic Outcomes:
Goal 1: Sustainable Development of land and resources	
Continue to develop policy initiatives to provide increased certainty of access for the subsurface sectors, and respond to specific access impediments as they arise.	Increased investment in oil and gas or mineral exploration and development projects
Assist with coordination of infrastructure development or other projects that support subsurface economic development	Infrastructure built Increased investments, lower transportation costs and higher corporate profitability and revenues to the Crown
Participate in Crown Land access and policy initiatives focused on other sectors or led by other agencies, to ensure subsurface resource values and access needs are adequately considered	Increased investment in BC
Continue to ensure subsurface resource values and access needs are adequately considered in land use planning and balanced, science-based resource management decision-making:	Increased investment New opportunities for FN participation in subsurface resource development
Contribute to completion of strategic or SRM planning in the Atlin-Taku region (under consideration)	Sustainable development Increased investment in the region
Assist with incorporate subsurface resource information into Sustainable Resource Management Planning and other landscape-level planning, or initiate and lead completion of SRM Planning where subsurface resource development is the prime economic driver. (e.g. to support oil and gas exploration in under-explored regions of BC)	Greater certainty for subsurface resource development and increased investment
Identify or facilitate opportunities for First Nations communities to develop subsurface resource projects or to develop partnerships with the private sector project proponents; and facilitate access to programs such as the Economic Measures Fund .	Increased First Nations participation in minerals, oil and gas economic opportunities Sustainable economic development
Identify regional subsurface resource development opportunities for communities and First Nations, and communicate socio-economic information which has previously not been readily available. (e.g. with socio-economic Building Blocks)	Increased community and FN knowledge and uptake of, economic opportunities
Goal 2: Effective delivery of integrated, science-based land, resource and geographic information	
Continue deployment of phases of Registries Integration Project in selected regions of BC .	Increased subsurface exploration investment Lower costs for industry
Continue to assist MEM with development and implementation of the Map Selection Implementation Project; enhance Integrated Registries Project consistent with new procedures for mineral tenure acquisition. 'Go Live' with project in June 2004'	Lower cost mineral tenure acquisition for free miner Lower government costs

Key Tasks: 2004/2005	Economic Outcomes:
Continue to partner with MEM on data conversion for Map Selection Implementataion	Post-implementation, access to accurate, timely information; lower business costs
Goal 3: Sound Governance of land and resource management	
Ensure subsurface resource values and access needs are adequately considered in government's land use and resource management decision-making	Transparent, accountable decisions and supportive industry
Continue to enhance socio-economic tools and methodologies for valuation of subsurface resources.	Industry supportive of government decision-making; improved business climate; increased investment
Implement strategies to facilitate and support application of sustainability principles in responsible subsurface resource developments:	Increased investment in responsible development Increased public support for subsurface sector activities
Goal 4: Organizational excellence	
Improve client-services by developing a results-oriented performance focused staff, as well as accountability and transparency to the subsurface sector and the public	Improved business climate, Lower cost government Increased investment in BC

Appendix 1: Summary of Issues – Mineral Resources

Theme	Issue	Potential MSRM Options/Strategies
Investment Attractiveness	Past BC government policies have discouraged mineral sector investment in BC.	Send a clear message to the mining industry, investment community and the public that responsible development of BC's metallic and industrial mineral, coal and aggregate resources is welcome and encouraged.
Security of access to land and resources	Uncertainty regarding access to land and resources has been cited widely as a major deterrent to investment in BC's mineral sector.	Implement Two-zone system for Mining. Complete strategic land use plans and implement approved plans in a manner that encourages mineral investment consistent with Two-zone system.
	Aspects of completing the Protected Areas Strategy (PAS) have negatively affected mineral investment as high value mineral lands were set off limits.	Complete PAS while minimizing impact on mineral, coal, industrial mineral and aggregate resource values.
	In some locations, protected areas deter investment by blocking access to resource lands beyond the protected area.	Work with other agencies to develop strategies to facilitate access to mineral lands effectively isolated by protected areas.
Security of Tenure	Security of tenure has been eroded by creation of protected areas and by other perceived restrictions on the ability to develop mineral discoveries.	Work to minimize impacts on mineral tenures if new protected areas are established. If unavoidable impacts arise, ensure appropriate compensation policy is applied. Ensure consistent application of the Two-zone land use system for mineral exploration and mining.
Sustainability and Environmental Stewardship	BC's history and efforts as a leader in responsible, environmentally sustainable mining is not broadly recognized by the public and NGOs. Changed perceptions will support socially acceptable mining.	Communicate BC experience in meeting mining and sustainability outcomes. Lead BC participation in metal and mineral sustainability initiatives.
First Nations Treaty Negotiations	Uncertainty related to outstanding First Nations treaty processes is currently a leading source of uncertainty for mineral investment in BC.	Support Treaty Negotiations with information and effective land use plans. Initiate Economic Measure proposals and support interim agreement negotiations to garner First Nations support of and participation in mining.
Infrastructure and access to markets	Many areas of BC with very high mineral potential, high mineral values, or identified reserves are remote from transportation and energy infrastructure and markets. Rail and marine transportation costs affect competitiveness of BC's products internationally.	Contribute to resource roads and infrastructure projects, including facilitation of partnerships, to support economic opportunities. Identify opportunities consistent with government business subsidy and P3 rules.
Regulatory Reform	Permitting and regulatory regime of BC had become expensive, time consuming and duplicative.	Establish results-based land use and resource management objectives that support an efficient one-window approach to timely permitting. Contribute to regulatory amendments affecting exploration or mining.
Informed Decision making	Government decision-making on land and resources has not been consistently informed by rigorous scientific and economic analyses on hidden mineral resources.	Provide accurate, integrated resource, registry and cadastral information to decision-makers. Ensure all land and resource plan approvals are supported by science-based decisions, and actively participate in the development and application of improved resource and economic analyses. Communicate science-based decision methods to stakeholders.

Abandoned / Orphaned Mines and Legacy Issues	Public attitudes and perceptions of mining are negatively affected by the legacy of 'old' closed and abandoned mines with outstanding environmental damages	Support MEM and MWLAP in evaluation of options for reclamation and rehabilitation of closed/abandoned sites. Communicate examples of successful restoration within sustainability initiatives.
Employment, Health and Safety	BC is already recognized as a leader in terms of health and safety at mine sites, and has the best safety record of any heavy industry in BC. Improved public perception will attract a new generation of skilled labour.	Contribute land use and resource management support for projects that provide opportunities for employment in the minerals sectors.
Research and Development	Exploration is the equivalent of research and development efforts in other industries. Long-term sector sustainability depends on active exploration to find new deposits and this is often guided by government mapping and studies. Better methods of assessing mineral values has value in government and industry work.	Continue to provide support of geological-mapping and studies that encourage exploration of BC's mineral resources. Work with MEM in improving mineral resource assessment methodologies, for use in both planning and in exploration.
Taxation	BC has been perceived as a high taxation jurisdiction, which when combined with recent low returns on investment, leads to decreased investment	Government has improved BC's taxation issues for mining. MSRM can support communication of this when promoting economic development in BC.

Appendix 2: Summary of Issues – Oil and Gas Resources

Theme	Issue	Potential MSRM Options/Strategies
Investment Attractiveness	BC government policies, regulatory / permitting delays, and higher operating costs may have a negative effect on BC's competitiveness.	Send a clear message to the oil and gas sector, the investment community and the public that responsible development of BC's oil and gas resources is welcome and encouraged. Implement key actions relating to access to land/resources, security of tenure.
Security of access to land and resources	High value gas resources within the Muskwa-Kechika Management Area are currently off-limits to exploration, pending completion of Pre-Tenure Plans. Uncertainty regarding access to land and resources has affected investment negatively in the past. Some aspects of completing the Protected Areas Strategy (PAS) has negatively affected oil/gas investment. In some locations, protected areas deter investment by blocking access to resource lands beyond the protected area.	Complete Pre-Tenure Plans in the Muskwa-Kechika Management Area to provide real opportunities for gas exploration and development. Complete strategic land use plans and implement approved plans in a manner that supports opportunities for oil and gas exploration and development, and provides for cost-effective, efficient pipeline infrastructure routes. Complete PAS while minimizing impact on high-potential oil and gas lands. Work with other agencies to develop strategies to facilitate access to oil and gas resource lands effectively isolated by protected areas.
Security of Tenure	Completion of PAS raised some security of tenure questions in the past. Currently, overlapping and potentially conflicting tenures are a significant concern to the oil/gas sector.	Contribute to the conflicting tenures initiative in north-eastern BC and other approaches to integrate multiple land uses supporting oil/gas development.
Sustainability and Environmental Stewardship	Past practices raise concerns over impacts of seismic, drilling and road building actions. Ongoing improvements in techniques to minimize impacts are not fully recognized.	Support continual improvement and adaptive management approaches when writing strategic land use plans. Showcase and communicate responsible exploration and development practices.
Climate Change	Climate change and greenhouse gas emissions are a significant issue for the upstream oil and gas sector. Government policy could have significant negative impacts on the sector in BC.	Position BC as supporting industry actions in reducing greenhouse gas emissions and in environmental stewardship. Showcase examples supporting sustainability. Work to ensure government policy is developed in a manner consistent with the governance for sustainability principles.
First Nations Treaty Negotiations	Uncertainty related to outstanding First Nations treaty processes and treaty rights is a source of uncertainty to the respective roles and responsibilities of the oil/gas sector, aboriginal people and governments.	Support Treaty Negotiations with information and effective land use plans. Provide advice to interim agreement negotiations to garner First Nations support of oil/gas developments. Support development of enduring and mutually beneficial relationships between the oil and gas industry and aboriginal people, businesses and communities.
Infrastructure and access to markets	Exploration efforts and development of new oil/gas resources may be constrained in several areas due to lack of access or pipeline infrastructure to downstream facilities. This issue is particularly true in the immature basins of BC, which are very remote from existing infrastructure.	Contribute to resource roads and other infrastructure projects, including facilitation of partnerships, that support development of economic opportunities. Identify new infrastructure opportunities that may be required to support development of immature basins and ensure land use plans maintain infrastructure routes for future development.
Regulatory Reform	Permitting and regulatory regime of BC may benefit from some increased efficiencies. Management direction in Pre-Tenure Plans needs to be clear, effective and implementable by the Oil and Gas Commission (OGC).	Establish results-based land use and resource management objectives that supports the Oil and Gas Commissions regulatory work; this is particularly true for Pre-Tenure Plans. Identify and eliminate Crown Land management related impediments, and develop clear, certain and predictable regulatory and access management policies.

Informed Decision making	Government decision-making on land and resources has not been consistently informed by rigorous scientific and economic analyses on hidden oil and gas resources.	Provide accurate, integrated resource, registry and cadastral information to decision-makers Ensure all land and resource plan approvals are supported by science-based decisions, and actively participate in the development and application of improved resource and economic analyses. Communicate science-based decision methods to stakeholders.
Employment, Health and Safety	BC is already recognized as a leader in terms of health and safety at oil and gas operations. Safety and access issues relating to potential sour gas wells remain an ongoing concern.	Ensure access management objectives in land use plans fully account for safety issues related to sour gas wells. In general, contribute land and resource management support for projects that provide opportunities for employment in the oil/gas sector.
Research and Development	Oil and gas exploration is the equivalent of research and development efforts in other industries, particularly with respect to future development of immature basins. Long-term sector sustainability depends on active exploration, and continued investment into research and development of new exploration techniques/technologies, and enhanced recovery and processing technologies. Better methods of assessing hidden oil/gas resource values will support land use plan developments.	Ensure land use plans encourage oil/gas exploration in new areas of BC. Support adaptive management and continuous improvement in land use plan and resource management objectives. Assist MEM in improving oil/gas resource assessment methodologies for use in strategic land planning initiatives.
Taxation	Taxation policies may reduce BC's competitiveness in this global industry.	Government has improved BC's taxation issues. MSRM can support communication of this when promoting economic development in BC.